Name_____ Date_____

Ch 6 Review

Solve.

1. $(x + 5)^2 + 25 = 0$

2. $(x – 2)^2 = 12$

3. $x^2 + 8x + 6 = 0$

4. $2x^2 + 5x + 3 = 0$

Determine the nature of the roots. (without solving)

5. $2x^2 + 9x + 3 = 0$

6. $3x^2 – 6x +3 = 0$

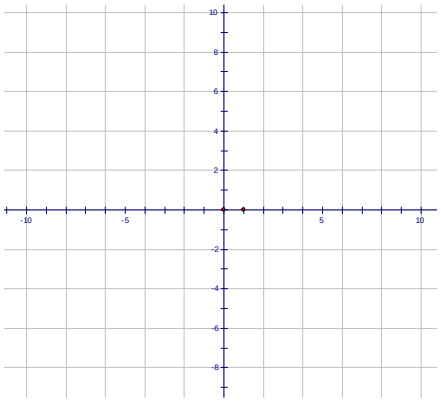
7. $4x^2 + 2x – 110 = 0$

8. Determine the value for k such that $3x^2 + 6x + k = 0$ has a double root.

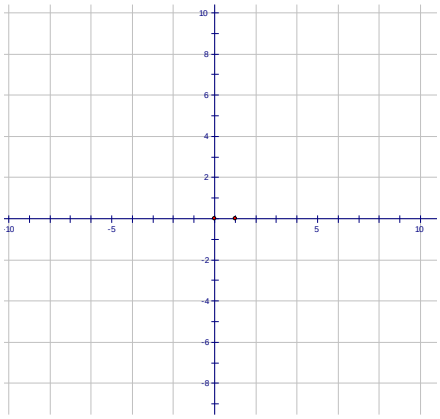
9. The height of a projectile is given by the following formula $h = 100t – 16t^2$. What is the maximum height of the object?

10. Graph

a. $y < x^2 - 4x -5$



b. $y = (x - 1)^2 – 9$



Solve.

11. $2x^2 - 11x - 40 < 0$

12. $3x^2 - 4x + 8 > 0$

Matching. Match the equation with the correct letter of the graph.

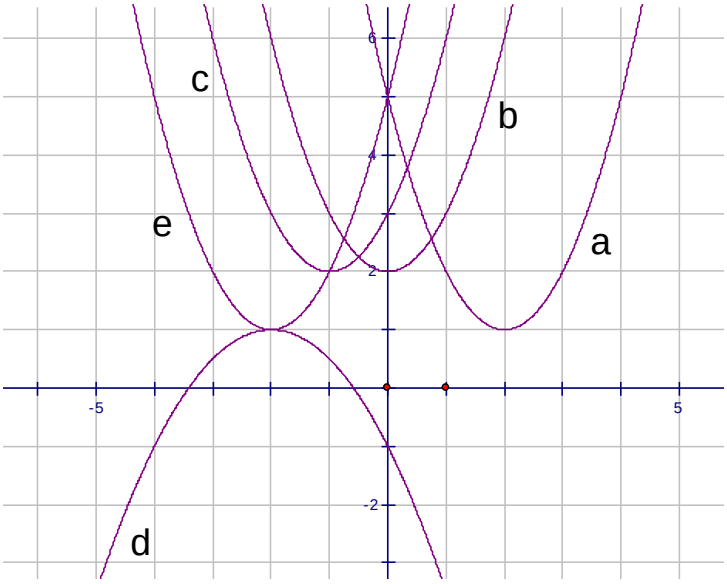
13. $y - 2 = (x + 1)^2$ _____

14. $y = -\frac{1}{2}(x + 2)^2 + 1$ _____

15. $y - x^2 = 2$ _____

16. $y = x^2 + 4x + 5$_____

17. $y = x^2 - 4x + 5$_____



Write the quadratic equation with the given roots.

18. {-3, -3}

19. {5, -3}

20. {4, ¾ }

21.{3i, -3i}

22. { 5 + 3i, 5 – 3i}

23. $\{2+\sqrt{5}, 2-\sqrt{5}\}$

24. Find k, if one root is -4 for the equation: $2x^2 + kx - 12 = 0$.

25. The sum of the lengths of the legs of a right triangle is 10cm. What is the maximum area of such a triangle? (A = ½ bh) (The height and base are the legs.)